

In the Claims

Please amend claims 1, 3-5, 12-13, 17-18 and 23 to read as follows:

1. A method to reduce induced apoptosis mediated by protein-protein interaction, the method comprising:

inhibiting interaction of presenilin 2 comprising an amino acid sequence as set forth in SEQ ID NO: 1 with a calcium-binding protein comprising an amino acid sequence set forth in SEQ ID NO: 2.
3. The method according to claim 2, wherein the calcium-binding protein is a human protein.
4. The method according to claim 3, wherein the calcium-binding protein has reduced interaction with presenilin 1 having an amino acid sequence set forth in SEQ ID NO: 3 relative to the interaction with presenilin 2.
5. The method according to claim 3, wherein inhibiting the interaction between the presenilin 2 and calcium-binding protein is facilitated by substitution of at least one amino acid residue selected from the group consisting of 287, 288 and 297 of SEQ ID NO: 1.
12. A purified mutant calcium-binding protein comprising an amino acid sequence as set forth in SEQ ID NO: 2 and having a substitution of at least one amino acid residue in at least one calcium-binding EF-hand of SEQ ID NO: 2.
13. An isolated nucleic acid molecule encoding a mutant calmyrin protein, the mutant protein comprising at least one amino acid residue substitution at position 2, 127 or 172 of SEQ ID NO: 2.

17. A substantially pure mutant calcium-binding protein having an amino acid sequence as set forth in SEQ ID NO: 2 having a substitution of at least one amino acid penultimate N-terminal residue.
18. An isolated and purified nucleic acid molecule encoding a mutant of human presenilin 2 protein, the mutant comprising at least one amino acid substitution at positions 287, 288 or 297 of SEQ ID NO: 1.
23. A method of reducing apoptosis in neuronal cells comprising:
administering a calcium-binding protein in a sufficient amount to effect protein-protein interaction with presenilin 2, wherein the calcium-binding protein comprises at least one substitution in the amino acid residues in the calcium-binding EF-hands or in a penultimate N-terminal residue of SEQ ID NO: 2.

Please add new claim 24.

24. (New) A method to reduce induced apoptosis mediated by protein-protein interaction, the method comprising:
inhibiting interaction of presenilin 2 comprising the amino acid sequence as set forth in SEQ ID NO: 1 with calmyrin protein comprising the amino acid sequence as set forth in SEQ ID NO: 2, wherein inhibiting the protein-protein interaction is effected by at least one mutation selected from the group consisting of:
 - 1) substituting at least one amino acid residue at position 287, 288 or 297 of SEQ ID NO: 1;
 - 2) substituting at least one amino acid residue in the calcium-binding EF-hands of SEQ ID NO: 2, wherein the calcium-binding hands include amino acid residues at positions 116 to 128 or 161 to 173 of SEQ ID NO: 2;
 - 3) substituting at least one N-terminal residue at positions 2 or 3 of SEQ ID NO: 2; and
 - 4) substituting at least one amino acid residue at position 2, 127 or 172 of SEQ ID NO: 2.